



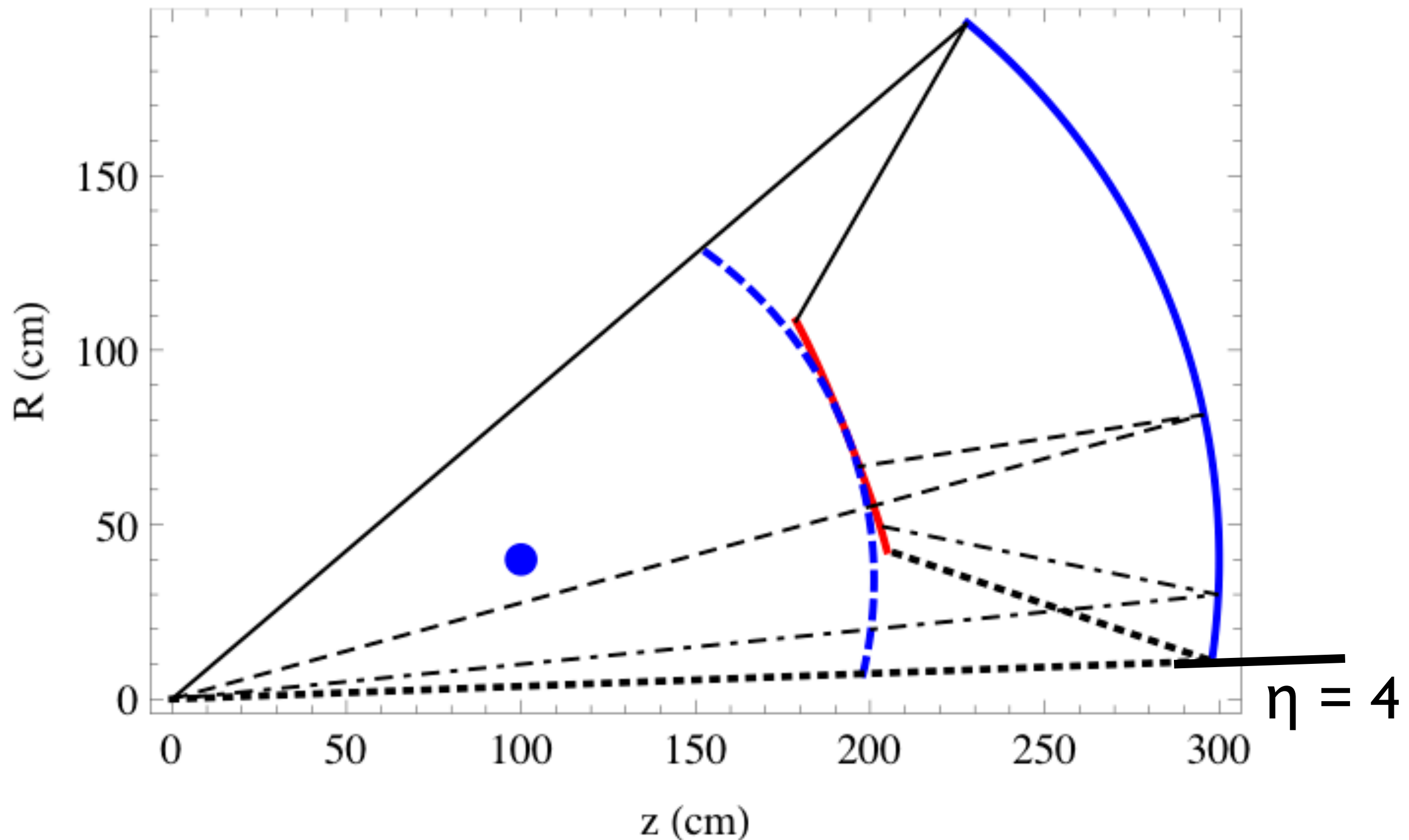
Stony Brook University

# Gas-based Forward RICH in Geant4

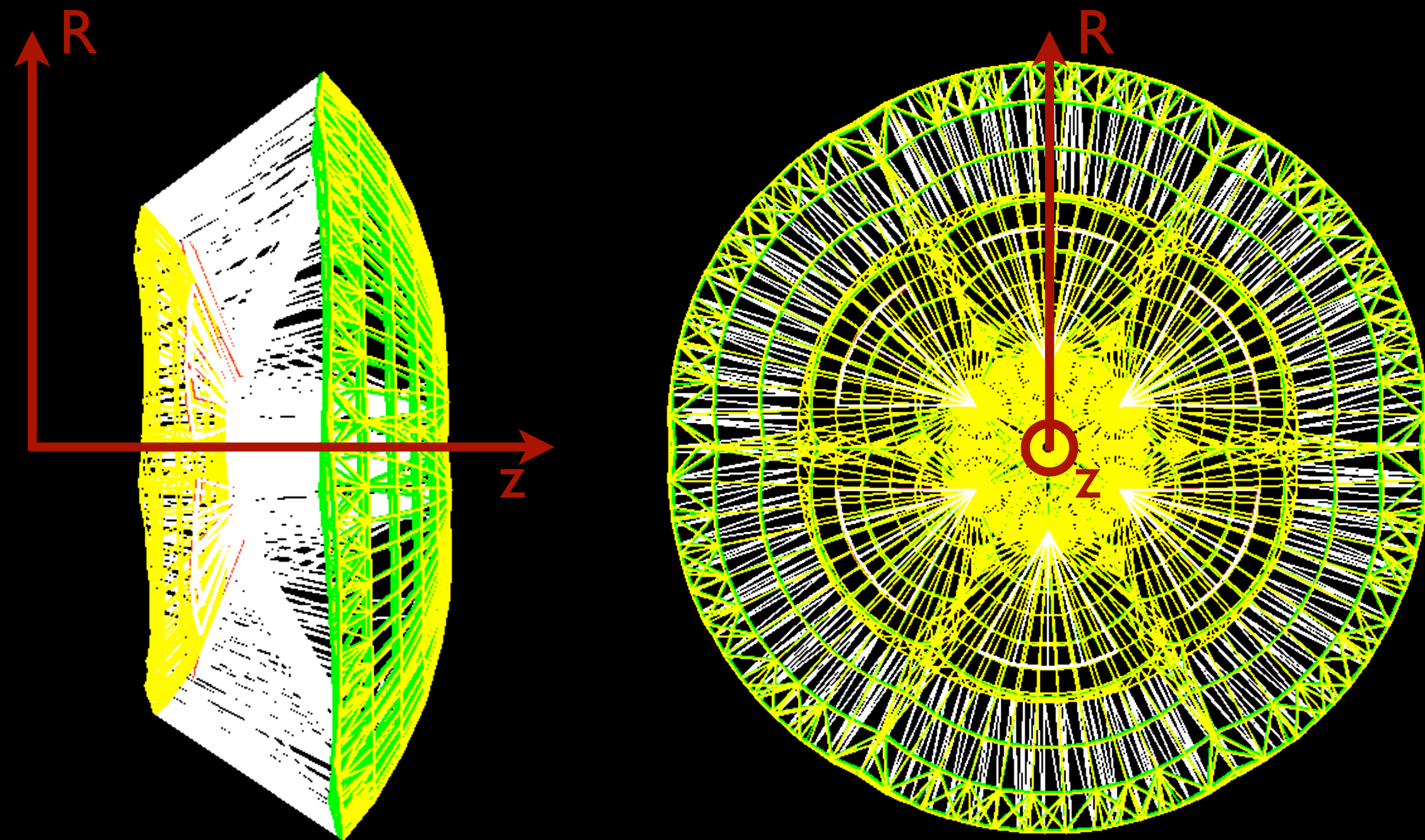
Nils Feege

EIC Simulation Meeting  
Stony Brook, September 30, 2014

# Forward RICH Sketch from LOI

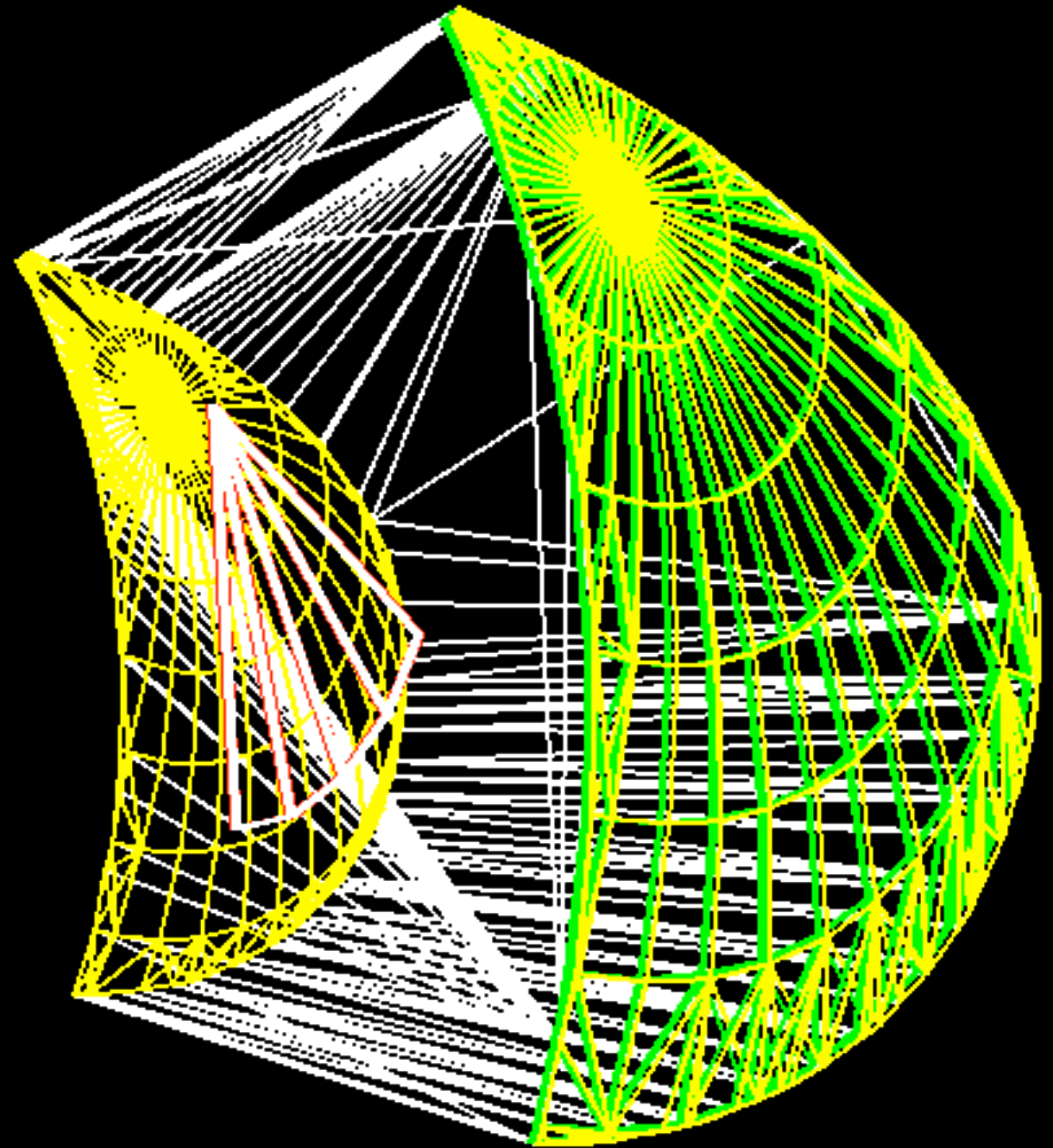
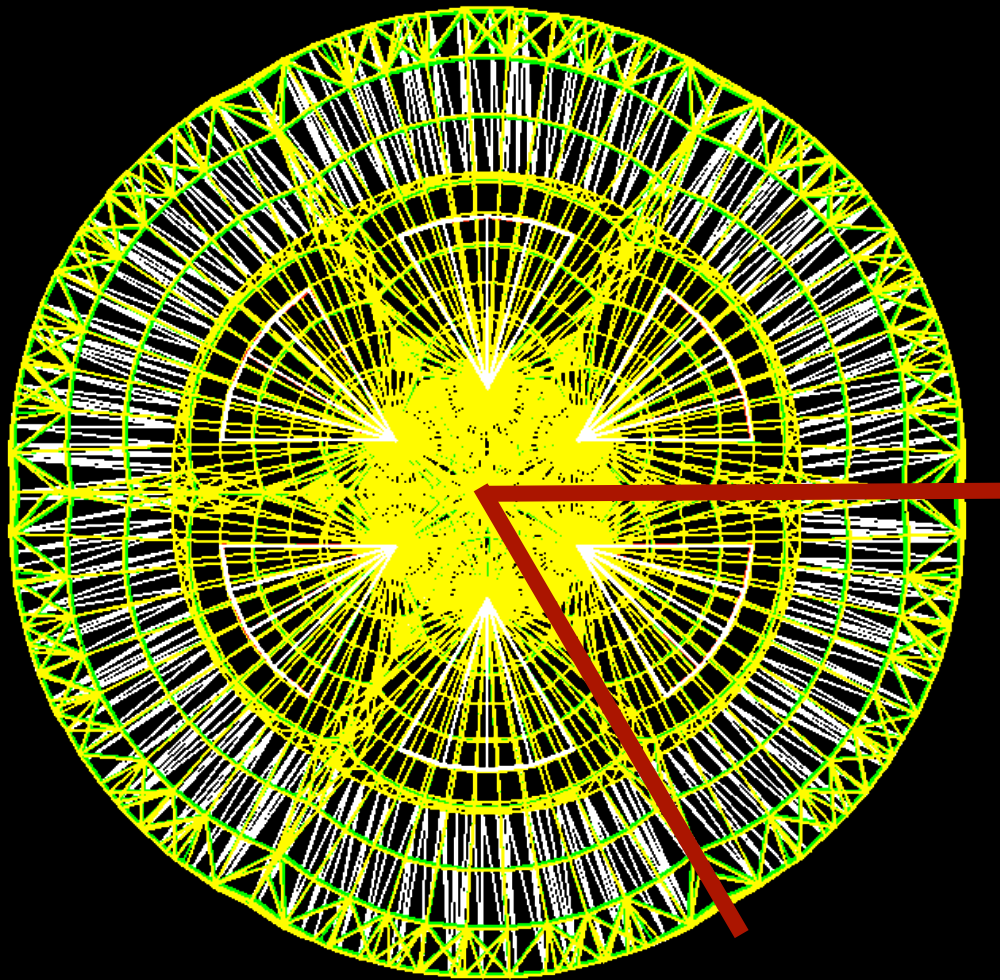


# RICH in Geant4

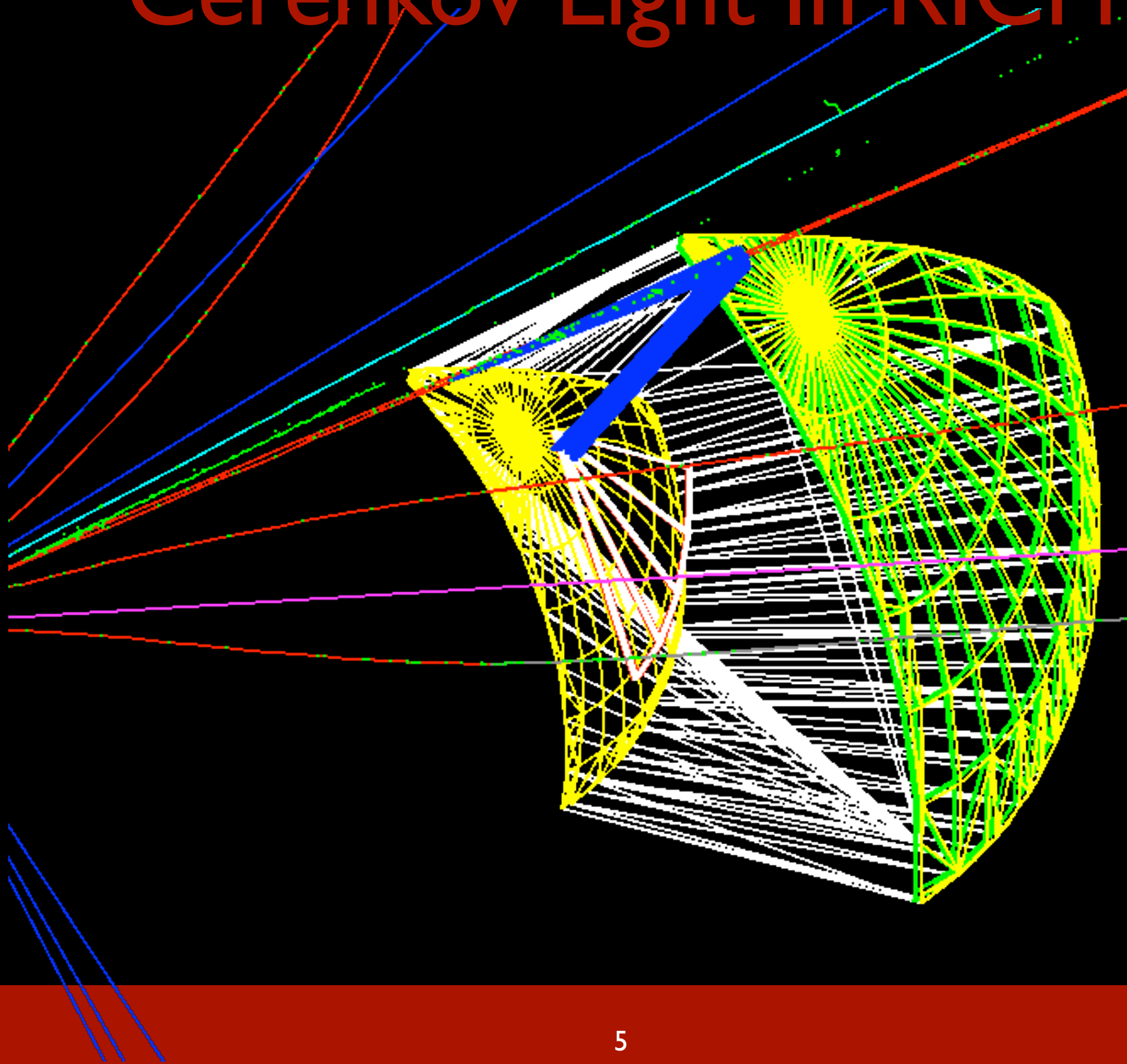




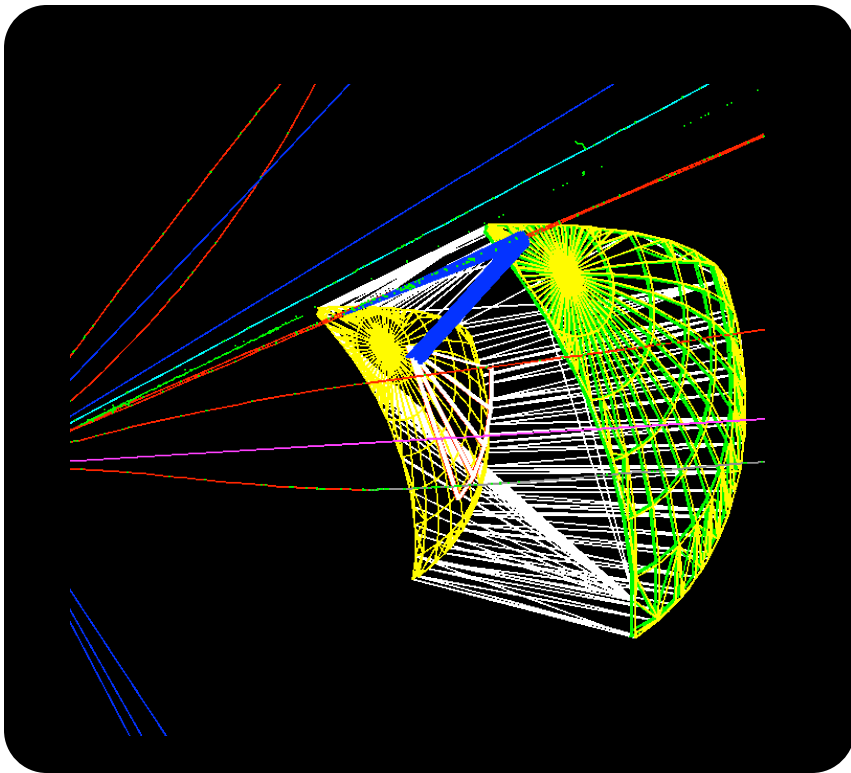
# Single Segment



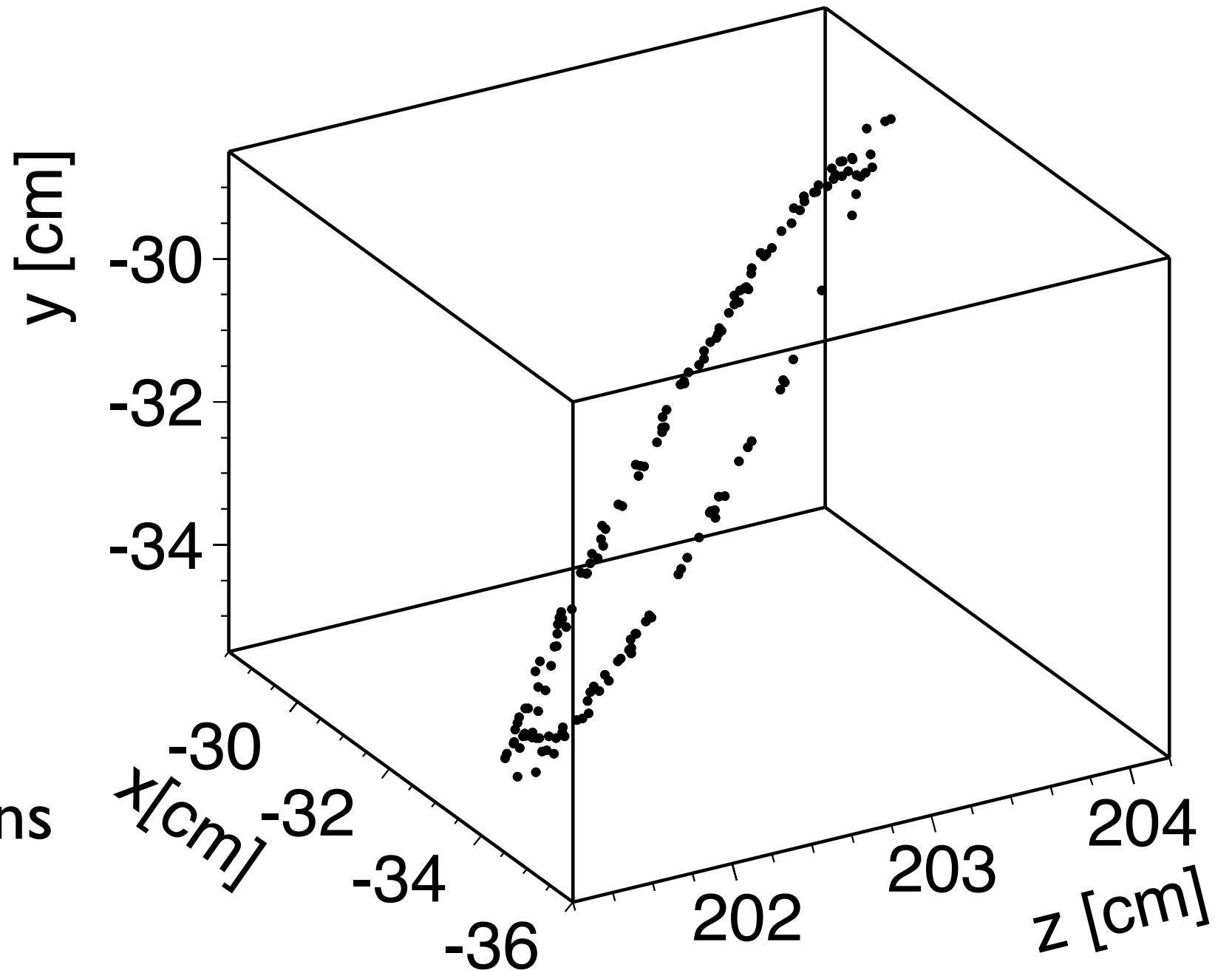
# Cerenkov Light In RICH



# True MC 'Signal': 3D Positions of photons hitting photocathode



- Only Cerenkov photons
- No Scintillation (yet)

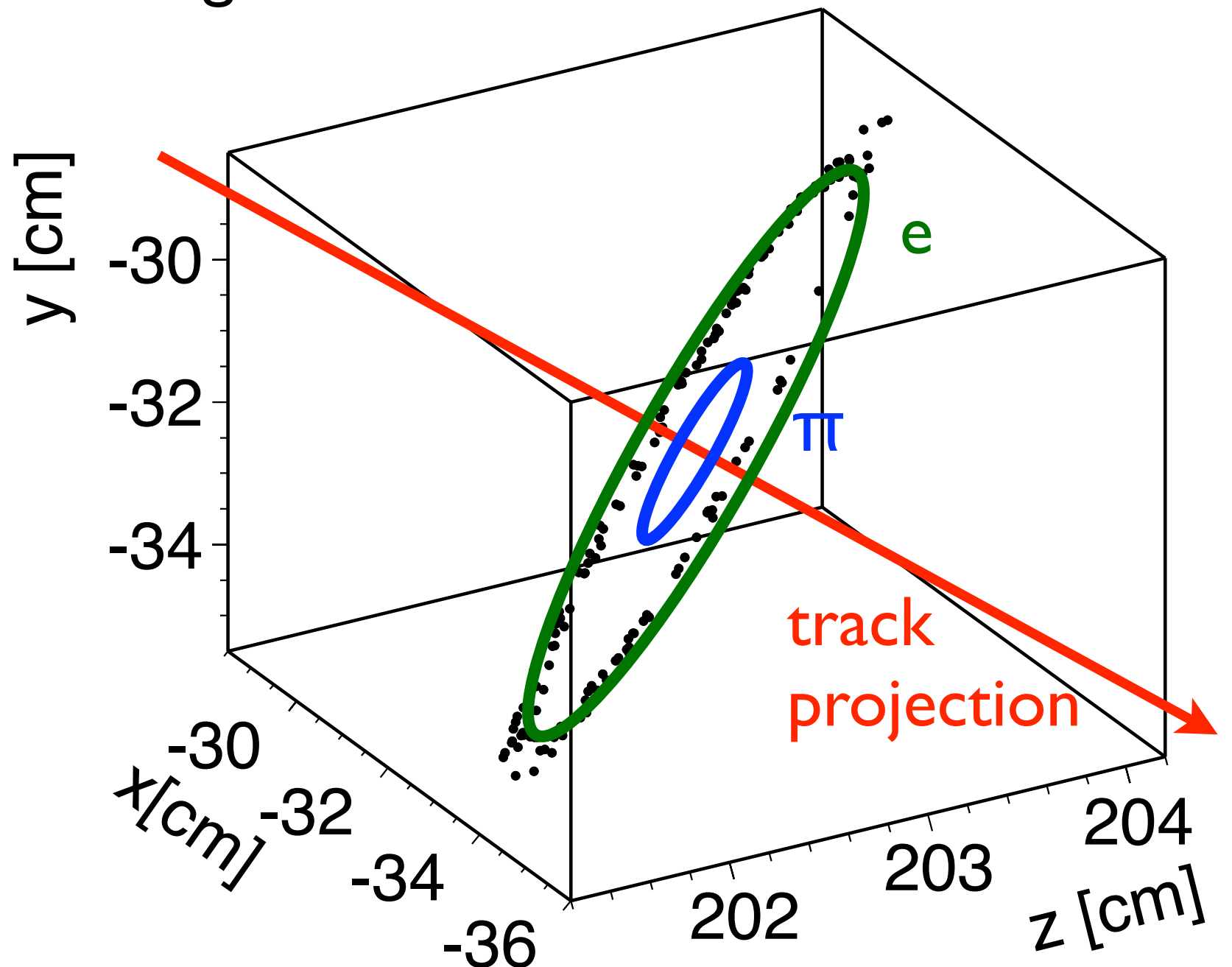
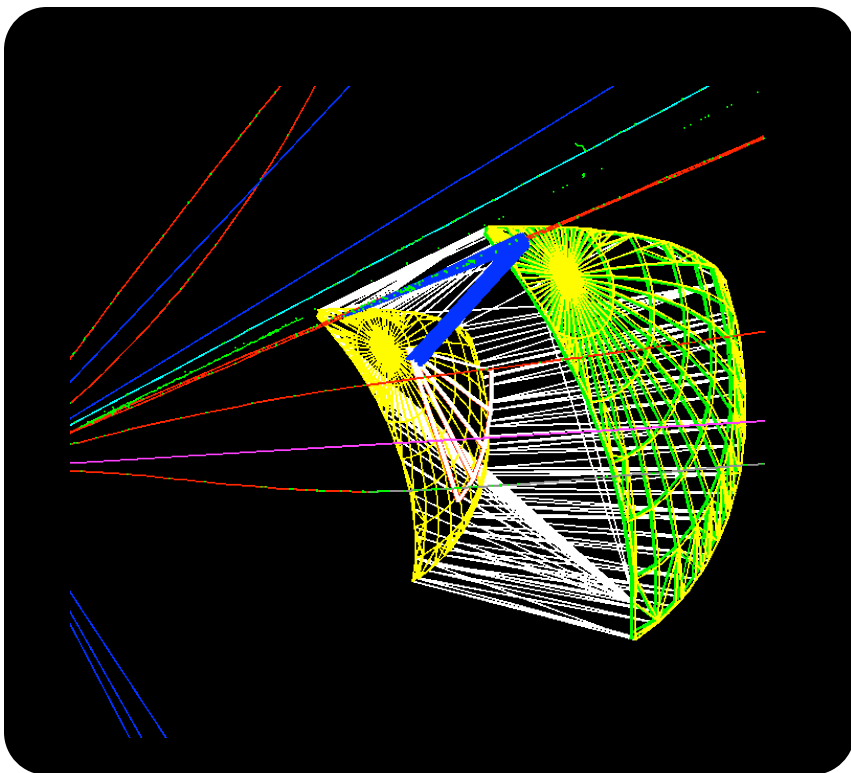




# Approach for Analysis Library

Known: Particle track, momentum and ID candidates

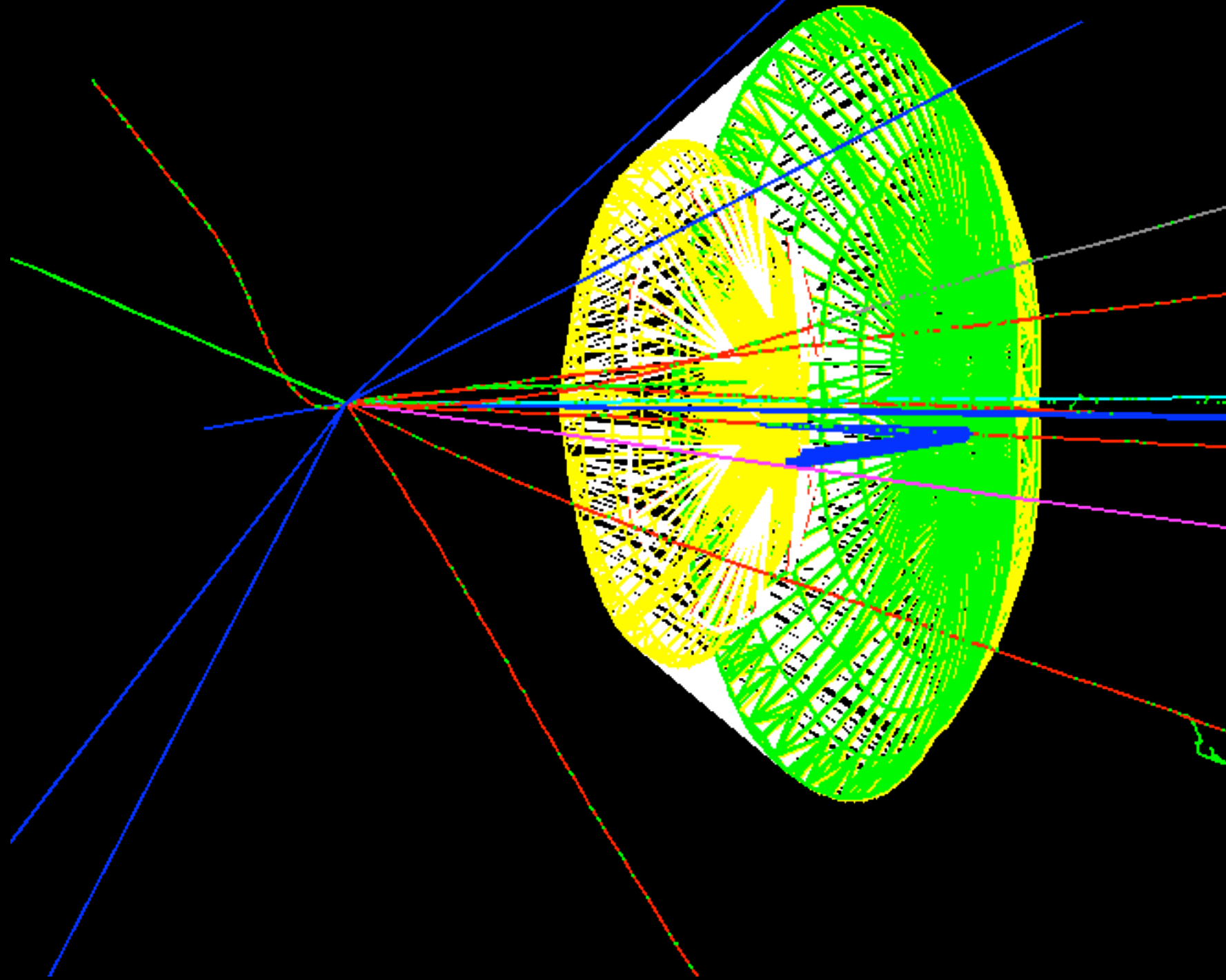
→ count hits in 'ring candidate areas' for PID



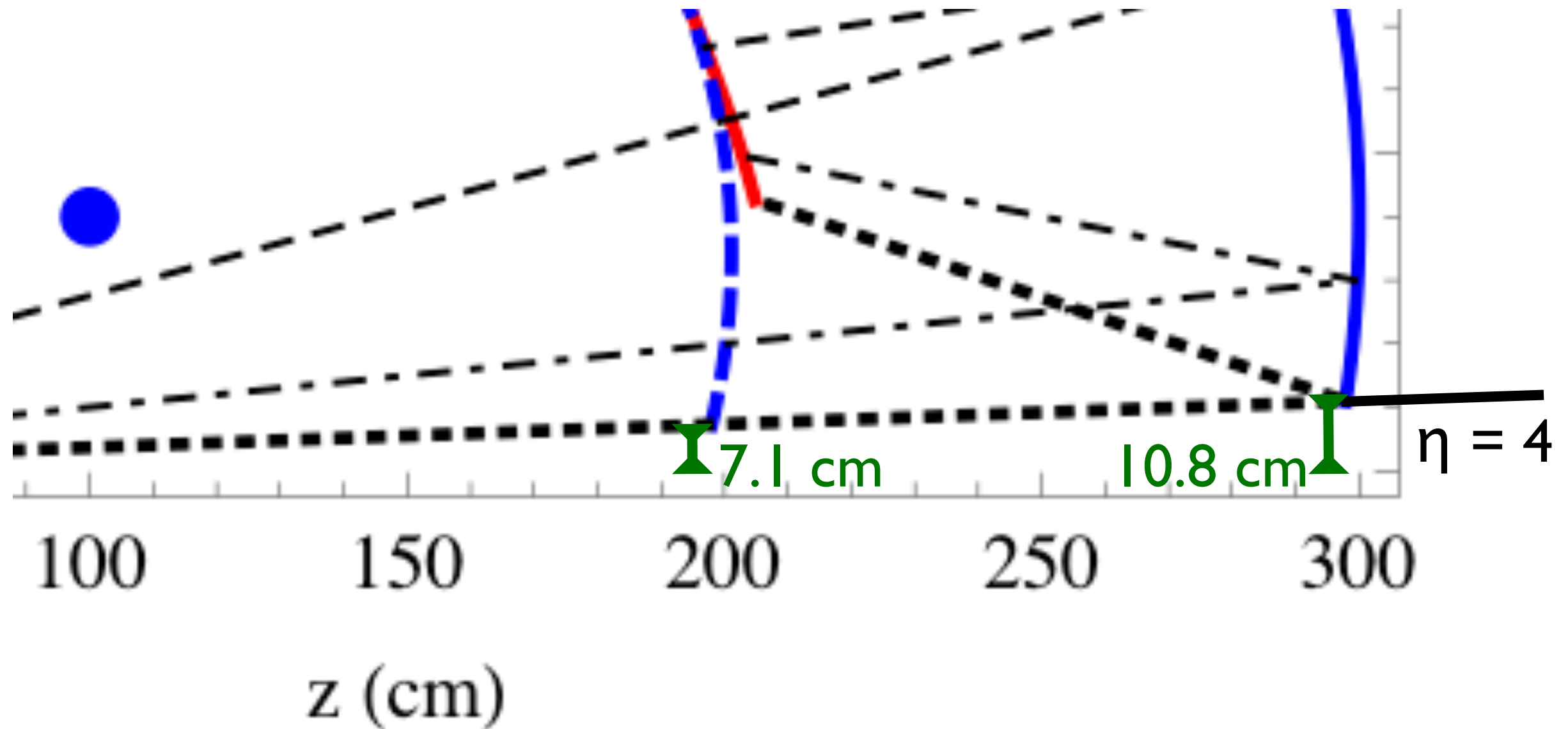
***ADDITIONAL SLIDES***



# Event in RICH (Geant4)



# RICH Sketch from LOI



Beam pipe:  $R \sim 2$  cm  $\rightarrow$  Enough space for 1 cm RICH wall  
Field shaper / beam pipe shielding?